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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/222,092 12/29/98 HUNT

R MD-4976/MD

EXAMINER

MMC2/0207

PATENT DEPARTMENT
BAYER CORPORATION
100 BAYER ROAD
PITTSBURGH PA 15205-9741

LEE, S

ART UNIT

PAPER NUMBER

2878

DATE MAILED:

02/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/222,092

Applicant(s)

HUNT ET AL.

Examiner

Shun Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 1998 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
2. Color photographs and color drawings are acceptable only for examination purposes unless a petition filed under 37 CFR 1.84(a)(2) or (b)(2) is granted permitting their use as formal drawings. In the event applicant wishes to use the drawings currently on file as formal drawings, a petition must be filed for acceptance of the photographs or color drawings as formal drawings. Any such petition must be accompanied by the appropriate fee as set forth in 37 CFR 1.17(i), three sets of drawings or photographs, as appropriate, and an amendment to the first paragraph of the brief description of the drawings section of the specification which states:

The file of this patent contains at least one drawing executed in color. Copies of this patent with color drawing(s) will be provided by the Patent and Trademark Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings have been satisfied.

Specification

3. The use of the trademark MAKROLON, LEXAN, and MONDUR 541 has been noted in this application. It should be capitalized (e.g., MAKROLON) wherever it appears and be accompanied by the generic terminology.

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Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the last two lines of claim 1, "applied contracted" is vague and indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2, 6, 7, 9, 11-15, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by DeVries *et al.* (US 5,532,817).

In regard to claims 1, 2, 6, 7, 9, 11, and 12, DeVries *et al.* discloses an apparatus comprising:

- (a) a source (e.g., a lamp) that illuminates with ultraviolet light a substrate (e.g., composite-forming material) whereby a binder (i.e., resin) has been applied (column 7, lines 9-14);

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- (b) a filter or filter system which removes the illumination ultraviolet light but allows the longer wavelength fluorescent light to pass (column 7, lines 11-31);
- (c) a lens (*i.e.*, stereoscope) for imaging (column 7, lines 15-18);
- (d) a camera (*e.g.*, a camera that produces color images) detects the image formed by the lens (*i.e.*, stereoscope) and generates an electrical signal (column 7, line 21; column 7, lines 50-63); and
- (e) a means to correlate recorded images to binder (*i.e.*, resin) dosage and distribution (column 7, line 50 to column 8, line 3; column 8, lines 33-37).

In regard to claim 13 which is dependent on claim 1, DeVries *et al.* also discloses that the correlation means is capable of enhancing the images (column 7, lines 56-61).

In regard to claims 14 and 15, DeVries *et al.* discloses a method comprising:

- (a) illuminating with ultraviolet light a substrate (*e.g.*, composite-forming material) whereby a binder (*i.e.*, resin) has been applied (column 7, lines 9-14);
- (c) collecting fluorescent light emitted by binder (*i.e.*, resin) (column 7, lines 15-18);
- (b) passing collected light through a filter system which removes the illumination ultraviolet light but allows the longer wavelength fluorescent light to pass (column 7, lines 11-31);
- (d) imaging the fluorescence emitted by binder (*i.e.*, resin) and generates an electronic signal (column 7, line 15-21; column 7, lines 50-63); and
- (e) relaying the electronic signal to means (*e.g.*, programmed computer) for correlating recorded images to binder (*i.e.*, resin) dosage and distribution (column 7, line 50 to column 8, line 3; column 8, lines 33-37).

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In regard to claim 19 which is dependent on claim 14, DeVries *et al.* also discloses that filters can be used to select the fluorescence from the binder (*i.e.*, resin) (column 7, lines 27 and 28; column 8, lines 10-12).

In regard to claim 20 which is dependent on claim 14, DeVries *et al.* also discloses that the correlation means is capable of enhancing the images (column 7, lines 56-61).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries *et al.* (US 5,532,817) in view of Bolton *et al.* (US 4,824,209).

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DeVries *et al.* discloses the apparatus as recited except for the explicit description of the source comprising 4 or more lamps. It is well known in the art that an illumination source can include a plurality of lamps in order to provide enough lighting for a given situation. Further, Bolton *et al.* teaches that a source can include a plurality of lamps (claim 1). Therefore it would have been obvious to one having ordinary skill in the art that the apparatus of DeVries *et al.* has a source which includes a plurality of lamps to provide enough lighting for fluorescence imaging.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries *et al.* (US 5,532,817) in view of Duclos *et al.* (US 5,818,577).

DeVries *et al.* discloses the apparatus as recited except for the explicit description of a plurality of filters that are positioned before the lens. DeVries *et al.* also teaches that the filters in a filter system are chosen to block light from the illumination source and to pass the fluorescent light (column 7, line 28-31). It is well known in the art that a plurality of filters can be positioned before and/or after the lens. For example, Duclos *et al.* teaches (Fig. 4) that a filter (201,202) is positioned before the lens (181). Therefore it would have been obvious to one having ordinary skill in the art that in the apparatus of DeVries *et al.*, a plurality of filters can be positioned before the lens since the purpose of the filters is to select a wavelength range of light to be detected and the purpose of the lens is to image the fluorescence from binder and/or substrate (e.g., composite-forming material) onto the camera.

12. Claims 5, 8, 10, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries *et al.* (US 5,532,817) in view of Burchill (EP 0 458 474).

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In regard to claim 5, DeVries *et al.* discloses the apparatus as recited except for the explicit description of a plurality of filters that are positioned after the lens.

DeVries *et al.* also teaches that the filters in a filter system are chosen to block light from the illumination source and to pass the fluorescent light (column 7, line 28-31). It is well known in the art that a plurality of filters can be positioned before and/or after the lens. For example, Burchill teaches that (Fig. 2) a filter (25) is positioned after the lens (23). Therefore it would have been obvious to one having ordinary skill in the art that in the apparatus of DeVries *et al.*, a plurality of filters can be positioned after the lens since the purpose of the filters is to select a wavelength range of light to be detected and the purpose of the lens is to image the fluorescence from binder and/or substrate (e.g., composite-forming material) onto the camera.

In regard to claims 8 and 10, DeVries *et al.* discloses the apparatus as recited except for the explicit description that the filter includes a long pass filter with cutoff wavelength between 400 and 600 nm or a near infrared blocking filter. DeVries *et al.* also teaches that the filters in a filter system are chosen to block light from the illumination source and to pass the fluorescent light (column 7, line 28-31). It is well known in the art that a plurality of filters can be selected from band pass filters and/or blocking filters. In addition, applicant has acknowledged that these types of filters are commercially available (pg. 11 and 12). As an example, Burchill teaches that the plurality of filters can be selected from band pass filters and/or near infrared blocking filters to block both ultraviolet and infrared radiation from the ultraviolet lamp and to pass the fluorescent light (column 8, lines 7-20). Therefore it would have been obvious

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to one having ordinary skill in the art that in the apparatus of DeVries *et al.*, a plurality of filters can be selected from band pass filters and/or near infrared blocking filters to block both ultraviolet and infrared radiation from the ultraviolet lamp and to pass the fluorescent light since the purpose of the filters is to select a wavelength range of light to be detected.

In regard to claim 18 which is dependent on claim 14, DeVries *et al.* discloses the method as recited except for the explicit description of the use of a near infrared blocking filter. DeVries *et al.* also teaches that the filters in a filter system are used to block light from the illumination source and to pass the fluorescent light (column 7, line 28-31). Burchill teaches that the plurality of filters can be selected from band pass filters and/or near infrared blocking filters to block both ultraviolet and infrared radiation from the ultraviolet lamp and to pass the fluorescent light (column 8, lines 7-20). Therefore it would have been obvious to one having ordinary skill in the art that one of the filters in the method of DeVries *et al.* is a near infrared blocking filter to block infrared radiation from the ultraviolet lamp and to pass the fluorescent light.

13. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries *et al.* (US 5,532,817) in view of Barrera *et al.* (US 6,001,936).

DeVries *et al.* discloses the method as recited except for the explicit description that the binder is a polyisocyanate-based material (e.g., polyphenylene polymethylene polyisocyanate). DeVries *et al.* also teaches that any binder (*i.e.*, resin) that fluoresces is suitable for fluorescent optical inspection and the method by with suitability is determined (column 6, line 60 to column 7, line 8). Further, Barrera *et al.* teaches that a

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polyisocyanate-based material (e.g., polyphenylene polymethylene polyisocyanate) has measurable fluorescence (column 7, line 64 to column 8, line 22; column 1, lines 54-62). Therefore it would have been obvious to one having ordinary skill in the art to use a binder comprising of a polyisocyanate-based material (e.g., polyphenylene polymethylene polyisocyanate) in the method of DeVries *et al.* since it has measurable fluorescence.

14. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over DeVries *et al.* (US 5,532,817) in view of Krueger *et al.* (US 4,415,516).

DeVries *et al.* discloses the process as recited except for the specification of the binder being polyisocyanate, the substrate (e.g., composite-forming material) being wood strands, and forming then curing the polyisocyanate/wood strands material. However DeVries *et al.* teaches that after application of a resin (*i.e.*, binder) onto a material, fluorescent optical inspection is suitable for determining the configuration of thin films of resin on the material during or after the processing steps used to fabricate a finished article containing the resin (column 1, lines 13-22). Krueger *et al.* teaches a process where the binder is polyisocyanate, the substrate (e.g., composite-forming material) is wood strands, and forming then curing the polyisocyanate/wood strands material (column 4, lines 44-52, column 5, lines 55-67). Therefore it would have been obvious to one having ordinary skill in the art that in the process of DeVries *et al.*, the configuration of thin films of resin (*i.e.*, polyisocyanate) on a material (*i.e.*, wood strands) is determined by fluorescent optical inspection during the processing steps (*i.e.*,

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application of polyisocyanate onto wood strands material and forming then curing the polyisocyanate/wood strands material) used to fabricate a finished article.

Response to Arguments

15. Applicant's arguments filed 18 December 2000 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, "not fully formed polymer" , see pg. 9, third paragraph of Amendment filed 18 December 2000) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, even if applicant's argument that the resin being inspected in the DeVries *et al.* method is a fully formed polymer and thus different than a "not fully formed polymer" is considered, DeVries *et al.* teach the determination of resin properties "during or after the processing steps" (*i.e.*, properties of not fully formed or fully formed polymer; see column 1, lines 15-17).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, distribution of the reactive binder through out the substrate, see pg. 9, fourth paragraph of Amendment filed 18 December 2000) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

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USPQ2d 1057 (Fed. Cir. 1993). It is noted that amended claim 1 recites binder dosage and distribution on the material (see pg. 3, lines 10 and 11 of Amendment filed 18 December 2000). Further, Applicant has stated that " ... present invention relates to ... monitoring ... dosage and distribution on a surface ... " and showed images of material coated with a binder (pg. 1, lines 3-5; Figs. 3-7 and 12-14; pg. 5, lines 7-16, 28, and 29; pg. 6, lines 1-6 of specification). The Figs. clearly shows that only images of surface distribution was obtained with Applicant's invention. Thus, Applicant has not describe (or claim) an invention which determines the distribution of the reactive binder throughout the substrate.

In regard to Applicant's argument (pg. 9, fifth paragraph of Amendment filed 18 December 2000) that DeVries *et al.* does not teach or suggest that the disclosed method could be used to inspect materials during actual production of those materials, Examiner respectfully disagrees. DeVries *et al.* teach the determination of resin properties "during or after the processing steps" (column 1, lines 15-17).

Applicant argue (pg. 9, last paragraph to pg. 10, fourth paragraph of Amendment filed 18 December 2000) that DeVries *et al.* does not disclose a means for correlating recorded images to binder dosage and distribution. Examiner respectfully disagrees. It is noted that Applicant has defined dosage as "amount of binder applied" and distribution as surface coverage (pg. 1, lines 12-14 of specification). Applicant then states that " ... DeVries *et al.* teaches ... that the method disclosed therein can be used to determine ... coating uniformity ... " (pg. 10, lines 9-12 of Amendment filed 18 December 2000). Since coating uniformity and surface coverage are equivalent, the

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method and apparatus of DeVries *et al.* can be used to determine distribution from images. Thus, the teachings of DeVries *et al.* anticipate Applicants' invention as claimed in Claims 1, 2, 6, 7, 9, 11-15, 19, and 20.

In response to applicant's argument (pg. 10, fifth and sixth paragraph of Amendment filed 18 December 2000) that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, a plurality of wavelengths in the ultraviolet) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, even if applicant's argument that DeVries *et al.* requires the use of a UV light source at a specific wavelength and does not teach or suggest that UV light having a range of different wavelengths could be used is considered, DeVries *et al.* teach that a range of different wavelengths (*i.e.*, "broad pass filter", see column 7, lines 29, 30, 24, 25) or a specific wavelength (column 7, lines 25 and 26) could be used to illuminate the substrate.

In response to applicant's arguments (pg. 11-13 of Amendment filed 18 December 2000) against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, since the teachings of DeVries *et al.* anticipate Applicants' invention as claimed in independent claims 1 and 14 and dependent claims 2, 6, 7, 9, 11-13, 15, 19, and 20 (as discussed above),

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Applicant's arguments with regard to dependent claims (*i.e.*, 3, 4, 5, 8, 10, 18, 16, 17) which further limit independent claims 1 or 14 are moot.

In response to applicant's arguments (pg. 14 of Amendment filed 18 December 2000) against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, DeVries *et al.* teach that after application of a resin (*i.e.*, binder) onto a material, fluorescent optical inspection is suitable for determining the configuration of thin films of resin on the material during or after the processing steps used to fabricate a finished article containing the resin (column 1, lines 13-22). Krueger *et al.* teaches a process where the binder is polyisocyanate, the substrate is wood strands, and forming then curing the polyisocyanate/wood strands material (column 4, lines 44-52, column 5, lines 55-67). Therefore it would have been obvious to one having ordinary skill in the art that in the process of DeVries *et al.*, the configuration of thin films of resin (*i.e.*, polyisocyanate) on a material (*i.e.*, wood strands) is determined by fluorescent optical inspection during the processing steps (*i.e.*, application of polyisocyanate onto wood strands material and forming then curing the polyisocyanate/wood strands material) used to fabricate a finished article.

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Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (703) 308-4860. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham can be reached on (703) 308-4090. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SL
January 30, 2001


SEUNGSOOK HAM
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